Green Agenda: Decarbonisation of the Electricity Sector in the Western Balkans

Regional Project WB6 countries in cooperation with the Regional Cooperation Council (RCC)

Project Outline - Inception | April 2023

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by

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Project Outline

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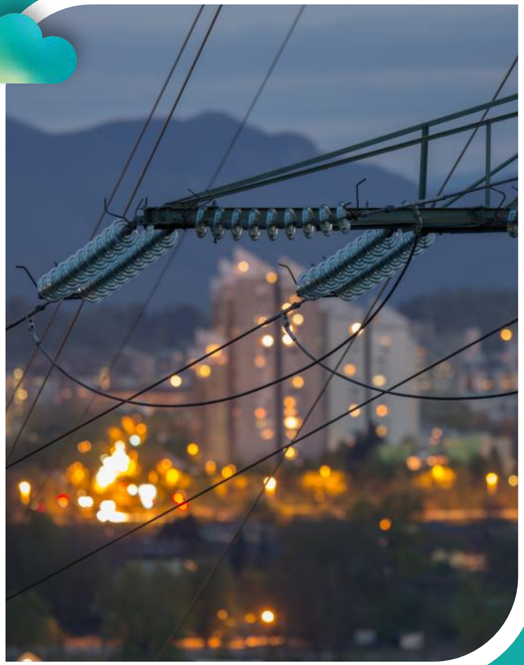
Background

Baseline:

- Green Agenda Western Balkans: climate neutrality by 2050; currently 2/3 CO_2 balance is due to the energy sector (60% coal-fired power generation).
- Close integration of WB-6 to EU Green Deal "Fit for 55" - strong regulatory cooperation with Energy Community (EnC); RE-support programs such as auctions or IFI-investment schemes are relying on WB-6 alignment with EU Green Deal
- Mixed messages by policymakers in energy transition reduce planning certainty for investors in renewables; public support/incentive systems are still underdeveloped; electrcity trading is severely limited
- Regulatory agencies and Network operators in WB-6 countries are insufficiently familiar with methodological and technological solutions for supply-safe grid integration of high proportions of RE
- The topic of practical education and training for the energy transition seems to be unaware of most sector managers neither see it as an opportunity nor as a challenge for the labour market



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Background

Way Forward:

- Regional cooperation is pivotal due to overall goals of:
  - Grid Stability/Energy Security
  - physical/market interdependency
  - rapid RE-share expansion in electricity mix
- Existing infrastructure and expertise in the electricity sector are historically similar in WB-6 countries, among the desire to increase participation in the EU internal energy market in the future: **Cooperation by inter-connectvity in RE-based electricity markets is pivot to the project implementation**
- **Flexible implementation structure**: Ad-hoc focus of WB-6 regulators/grid operators in common issues in sub-areas and correspondingly outputs: RE-network integration solutions, regulatory options, education and training curricula
- **Cooperation with Energy Community (EnC):** Providing technical, content-related and organisational- support by on-site consulting training on conceptual and legal issues – WB-6 electricity sector reforms coordinated in specific EnC working groups

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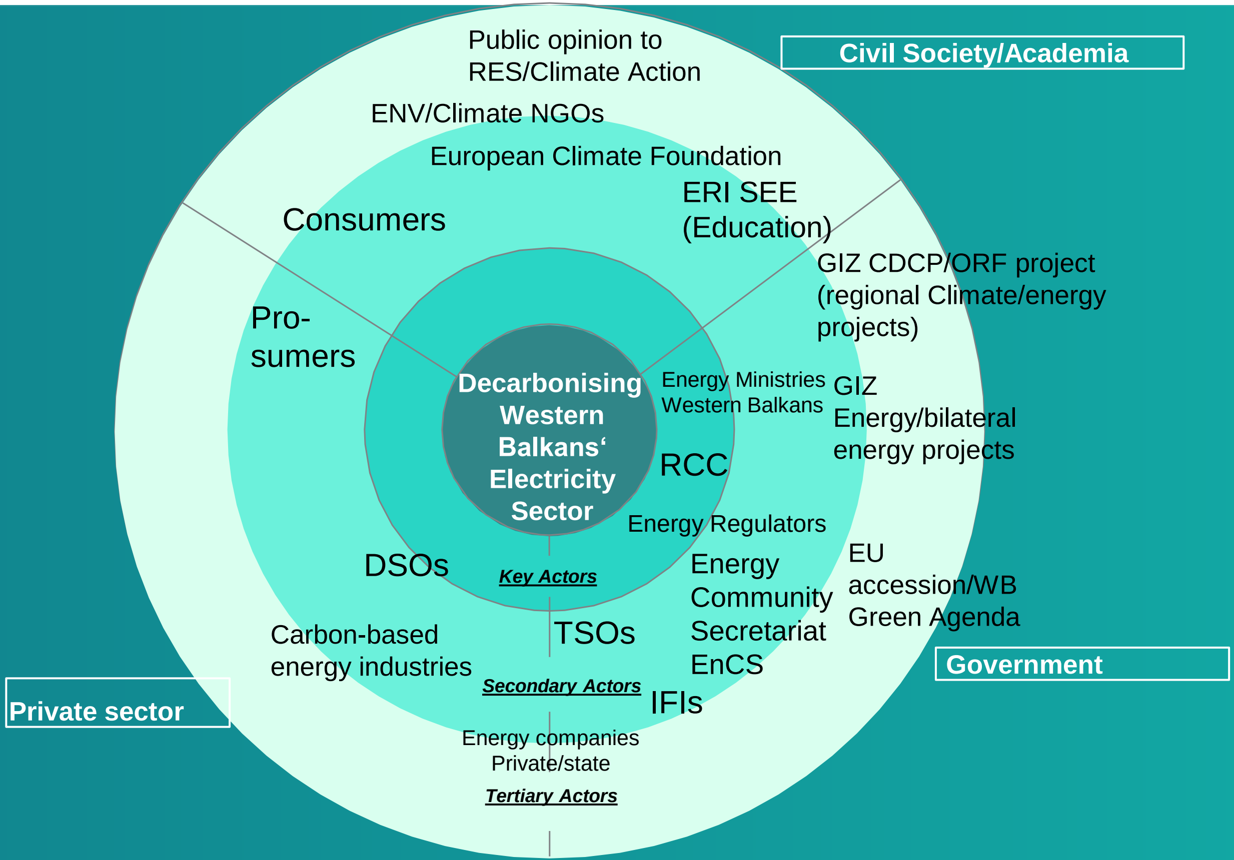
Stakeholders



KEY INFORMATION

- **3 MAIN COMPONENTS:**
  - **RE grid integration**
  - **RE regulatory framework;**
  - **Promoting TVET/education for RE services (ESCOs, professionals)**

- **Overall objective:** *The demand from key actors in the electricity sector for technological, regulatory and HR solutions for the implementation of an environmentally and climate-friendly energy transition has increased.*

- **Duration:** 2023-2025; 3 years
- **Budget:** 3.5 Mio. EUR
- **Rationale:** Regional project to enhance demand for solutions by stronger WB-6 interconnectivity and RE-based electricity markets
- **Impl. Structure:** Steering Group / GIZ Project Manager / GIZ WB-6 national coordinators
- **Technical Support:** Intl. Energy System Consultancies, ENV NGOs, Academia & On-site technical advisory
- **Multiplying knowledge** via Expert Communities with regulators, energy system operators, utilities of WB-6 countries

Rational & Approach

- This is a Regional project (WB scope) with the vision to enhance demand for solutions by stronger WB-6 interconnectivity and RE-based electricity markets
- WB electricity markets are deeply interconnected:
  - (1) Historical (carbon)-path dependency of power grids
  - (2) Grid Stability - power generation facilities
  - (3) Market Balancing necessities (baseload/peeks) due to increasing RE feed-in
- Project concept also allows to focus temporarily on a subset of countries with increased dynamism – ad-hoc cooperation and possibility of all WB6-expansion in case all-applicable solutions were identified
- Trust and awareness among WB6 energy actors are key principle to increase willingness for take-up of RE and its grid integration
- Intensification of regional cooperation by “Communities of Experts” – example: grid operator specialists, RE-departments of energy companies, municipal energy manager, EnC-Working Groups
- Demand-raise in RE technologies should be intertwined with the job market: Informational campaigning, common education/re-qualification standards, in line with EU WB Green Agenda / Just Transition Policies
- DO-no-harm-approach especially towards: Female professionals in Energy industries, active Prosumer households, energy cooperatives in municipalities

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3 major Project components
WB-6 Greening Electricity Sector t

Areas of intervention

1

Solutions for network integration of higher RE shares

- Grid operators/regulators work out innovative tech-solutions for RE-integration
- Regulators are supported to modernise grid infrastructure incl. diagnostics, forecasts, dispatching, accounting

2

Options to improve the regulatory framework for RE

- Regional exchange of regulators/grid operators to facilitate RES integration/feed-in
- Identifying options for DSO-level mass integration of RE-generation

3

Basics for vocational education and training (TVET) for RE “Green Jobs”

- Analysing labour market effects of increasing RE-demand, incl. re-qualification with WB TVET-organizations
- Campaigning towards RE-based professions/services and introduction of common quality standards

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Target groups & beneficiaries

- Population as a whole; in particular electricity consumers and pro-summers (small/medium-sized feeding-in parties of renewable energies)
- Political Partner Regional Cooperation Council (RCC) and Electrity/RE managing authorities of WB6-governments
- Specialists and managers of ministries, regulators and power grid operators (Transmission/Distribution grid operators)
- TVET organizations in fields of renewables and energy transition activist groups and active CSO groups in fields of renewable energies and education

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Overall Project Timeline & Phases

Project Inception	Implementation Phase					Closing Phase	
April – October 23	Nov. 23	Dec. 23- Feb 24	Feb 24 - May 24	May 24 - Oct 24	Nov 24 – Feb 25	March 25 – July 25	**July 25 – Oct 25**
Needs Assessment In 30 bil. Meetings with WB grid operators, utilitires, regulators, associations Contracting of Experts & Partners Regional Project Structure with National Coordinators	O1 Technology RE Budva Conferene „Greening Power Grids in WB“ Formation of thematical Working Groupsgroups	Identification of Top 5 technical solutions	**WG meetings to work out technical solutions** - Grid Planning, Forecasting, Balancing, Flexibilzation options - Grid management tools - Grid Connection tools		Best technical solutions & applicability in WB region	Finalization of Concepts & Methods for best technical solutions	Hand-over of support request to intl. Development Partners (bilateral TA projects / IFIs)
	O2 Regulatory RE	Identification of Top 5 regulatory optons	**WG meetings to work out outdifferent regultory options** - Permitting, Administration, Data Management - Grid Codes updates, Rule Books, Standardization - Incentive schemes, pricing, commercial aspects		Best regulatory practices Development & applicability in WB region	Finalization of Concepts & Methods for best regulatory solutions	
	O3 Green Jobs	Partnering up with TVET & Professional Associations	Information Campaigning		Modular Pilot Trainings	Workshops & Reg. Exchanges WB region	Recommendation Package Green Jobs

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Implementation Structure

Political-normative

- Set principles of cooperation on equal pace/footing
- Create Common Vision for WB6 electricity sector transition
- Balance of interests / working-out compromise

Strategic

- Setting Approach/Milestones
- Agreeing on Operational Plans
- Monitoring results

Operational

- Planning/Delivering activities
- Ensuring Quality/Compliance
- Provididing information for decision-making

German Government

Federal Ministry for Economic Cooperation & Development (BMZ)

WB-6 political partners

Political Partners

Reg. Coop. Council RCC

- MNE electricity authority
- ALB electricity authority
- KOS electricity authority
- BiH electricity authority
- SRB electricity authority
- NMK electricity authority

EU accession / Green Agenda Western Balkans

Energy Community
WB-6 contractual parties

Project Steering Group

- BMZ, GIZ, RCC, WB-6 authorities
- Regulators/Grid Operators

Project Office
Project Manager (AV)
Electricity/RE Sector Specialists

Research Institutes /NGOs TVET

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Main Project Implementor

Electricity/RE consultancies

Implementing partners

WB-6 Coordinators

- **TVET/Education campaigns**
- **Expert Community** Grid operations
- **Expert Community** RE integration

Output 1
- Solutions for network integration of higher RE shares

Output 2
- Options to improve the regulatory framework for RE

Output 3
- Basics for vocational education and training (TVET) for RE

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Major Activities

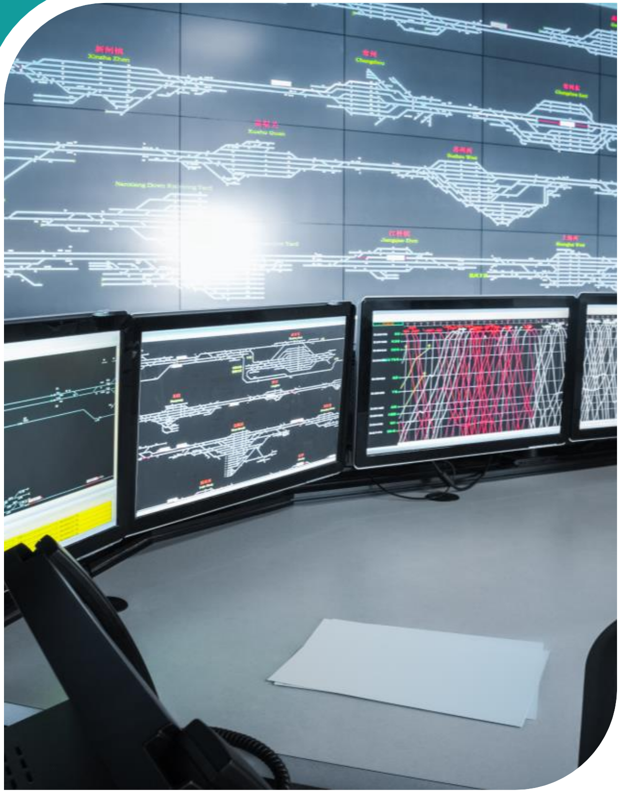
Output 1: Solutions for network integration of higher RE shares

- Jointly shaping and training of Western Balkans grid operators on technological innovations and good practices for dealing with increasing shares of RE (including generation/capacity forecasting, digitalization and flexibility options, dispatching, grid analysis and grid expansion planning).
- Enhancing Western Balkans grid operators' capacities on good practices for communication & coordination between distribution and transmission grids operators
- Skilling-up Western Balkans grid operators abilities for creating viable business models for dealing with prosumers, administrative handling of a variety of grid connection issues, and the implications of decentralized consumption/generation such as electromobility/charging
- Raise joint awareness of grid operators or ministries responsible for energy in the Western Balkan countries on good practices regarding integration of RE expansion planning and land use planning, as well as options for repurposing the existing grid infrastructure for RE integration

Major Activities

Output 2: Options to improve the regulatory framework for RE

- Facilitating regional exchange between regulators and ministries responsible for energy on good practices for efficient permitting, administration and data management processes for RE deployment and operation.
- Joint trainings of regulators, energy ministries, and grid operators in the Western Balkans on options for designing grid stability criteria, grid codes, and implementation rules for mass PV deployment at the distribution grid level by prosumers and energy communities.
- Providing technical advisory to regulators, ministries responsible for energy, and grid operators in the Western Balkan countries on technical and regulatory options for grid code enforcement.
- Promoting exchanges between regulators, energy ministries, RE plant and grid operators on adequate sharing of grid connection, reinforcement and balancing costs for RE plants.



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Major Activities

Output 3: Basics for vocational education and training (TVET) for RE

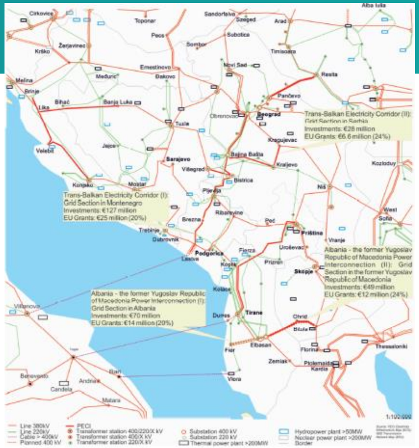
- Analyze expected employment effects and skilled labor requirements of a RE-based energy transition
- Roll-out an information campaign on professional perspectives and attractiveness of green jobs among the energy transition of Western Balkans
- Together with vocational education and training institutions of the Western Balkan countries, develop a recommendation package consisting of regionally standardized learning contents and recommendations for the technical equipment of vocational education and training institutions for RE
- Update skills & knowledge for a RE-based energy transition of existing RE specialists and representatives of further education institutions by means of pilot (master) trainings.
- Development and piloting information campaigns with RE industry associations and chambers to promote good craftsmanship and technical quality to RE investors/end-users
- Identify options for coal sector professionals to retrain for the energy transition ("RE qualification") and advise organizations for professional development

Project Summary

Regulatory Framework
RE Integration

Campaigning
RE Professionals & Education

Trans-WB6 Grid
Interconnectivity



Connectivity Agenda, EU, 2015

On-site consultancy
grid standards & tech-solutions

EU Energy standards
Energy Community

WB-6 compatible RE integration solutions

WB6-Cooperation TSOs/DSOs

Intl. Experts & Scientific Exchange

Expert Communities
RE grid management

EU accession WB-6: Electricity Markets

WB-6 Green Agenda

Results framework

National level

	Output 1: **Solutions for network integration of higher RE shares**	Output 2: **Options to improve the regulatory framework for RE**
Objectives	• A total of 4 solutions for the grid integration of high proportions of RE were analysed by network operators or ministries responsible for energy from 4 Western Balkan countries in regional exchanges.	A total of 4 options to improve the regulatory framework for RE were analysed by energy ministries, regulators and grid operators from 4 Western Balkan countries in regional exchanges.
Main Activities	• Regional exchange between regulators and ministries responsible for energy on good practice examples for efficient approval, ad-ministration and data management processes for the expansion and operation of RE • Working-out options for the establishment of grid stability criteria, grid codes for the mass expansion of PV at distribution network level by prosumers and energy communities	• Technological innovations and good practices to deal with increasing proportions of RE (ex. generation forecasts, digitalization and flexibility options, dispatching, grid analysis/network expansion planning) • Developing viable business models for dealing with prosumers, handling of a large number of grid connections and further training on the implications of electromobility • Awareness raising/informational space by expert communities on RE expansion planning and land use planning as well as options to re-use grid infrastructure/former fossil-based plants (power stations, coal mines etc.)

Impacts

- ✓ Key actors in the electricity sector are familiar with solu-tions for the grid integration of high proportions of renewable energy
- ✓ Key actors in the electricity sector are familiar with options to shape conducive framework conditions for the transition to renewable energies in the Western Balkans.

Results framework

Output 3:
Basics for vocational education and training (TVET) for RE

Objectives	- 2 gender-sensitive information campaigns on the opportunities, needs and content requirements of vocational education and training for the energy transition were carried out by national or regional VET organisations in 3 WB countries - 3 VET organisations from 3 WB countries have developed in regional exchanges a package of recommendations on education and training for a RE-based energy transition.
Main Activities	• Analyse expected employment effects and skilled workers' needs of a RE-based energy transition, conceptualise information cam-paign • Develop a package of recommendations with vocational education and training institutions in the WB • Develop an information campaign with RE-industry associations together with NGOs and identify options for re-skilling (i.e. fossil fuel based extraction/generation)
Impacts	✓ VET organisations are familiar with the opportunities, needs and content requirements of education and training for an energy transition based on renewable energies.

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German Federal Ministry for Economic Cooperation and Development (BMZ)
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In cooperation with:

RegionalCooperationCouncil
Co-funded by the European Union

Deutsche Gesellschaft für
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